

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (Original): An external additive for a toner for electrophotography comprising:

oxide fine particles which contain silicon, wherein the oxide fine particles have a primary particle diameter of 30 nm to 300 nm in number average, a standard deviation σ of a particle size distribution of the primary particle diameter satisfies a relation of: $R/4 \leq \sigma \leq R$, in which the R expresses the primary particle diameter, the oxide fine particles are substantially spherical having a circularity SF1 of 100 to 130 and a circularity SF2 of 100 to 125, the circularity SF1 is defined as an equation (1) and the circularity SF2 is defined as an equation (2);

$$SF1 = (L^2/A) \times (\pi/4) \times 100 \quad \text{equation (1)}$$

$$SF2 = (P^2/A) \times (1/4\pi) \times 100 \quad \text{equation (2)}$$

wherein "L" expresses the absolute maximum length of the oxide fine particles; "A" expresses a projected area of the oxide fine particles; and "P" expresses a maximum perimeter of the oxide fine particles.

Claim 2 (Original): The external additive for a toner for electrophotography according to claim 1, wherein the oxide fine particles have the primary particle diameter of 50 nm to 170 nm in number average.

Claim 3 (Original): The external additive for a toner for electrophotography according to claim 1, wherein the standard deviation σ of the particle size distribution of the

primary particle diameter satisfies a relation of: $R/3 \leq \sigma \leq 2R/3$, in which the R expresses the primary particle diameter.

Claim 4 (Previously Presented): The external additive for a toner for electrophotography according to claim 1, wherein the oxide fine particles have the circularity SF1 of 100 to 125 and the circularity SF2 of 100 to 120.

Claim 5 (Original): The external additive for a toner for electrophotography according to claim 1, wherein the oxide fine particles further comprises a metal element.

Claim 6 (Currently Amended): The external additive for a toner for electrophotography according to claim 5, comprising Si and wherein the metal element is at least one selected from Mg, Ca, Ba, Al, Ti, V, Sr, Zr, [[Si,]] Sn, Zn, Ga, Ge, Cr, Mn, Fe, Co, Ni, and Cu.

Claim 7 (Original): The external additive for a toner for electrophotography according to claim 5, wherein the metal element is a titanium element.

Claim 8 (Currently Amended): The external additive for a toner for electrophotography according to claim 5, wherein the metal element, Si element, and O element of the oxide fine particles are ~~uniformly~~ evenly dispersed ~~over~~ between a surface part ~~of the oxide fine particles~~ and an inside part of the oxide fine particles.

Claim 9 (Previously Presented): The external additive for a toner for electrophotography according to claim 1, wherein a surface of the oxide fine particles are treated with an organosilicon compound coupling agent.

Claim 10 (Original): The external additive for a toner for electrophotography according to claim 1, wherein the oxide fine particles are hydrophobic oxide fine particles having a $R^1_3SiO_{1/2}$ unit on a surface thereof, in which the R^1 is an identical or a different monovalent carbon hydrogen group having 1 to 8 carbon atoms.

Claim 11 (Original): The external additive for a toner for electrophotography according to claim 1, wherein the oxide fine particles are treated with silicone oil, and a liberation degree of the silicone oil is 10% to 95%.

Claim 12 (Original): A toner for electrophotography comprising:
base toner particles which contain a binder resin and a coloring agent; and
an external additive, wherein the base toner particles have a volume average particle diameter of 2 μm to 7 μm , the external additive is mixed with the base toner particle, and the external additive comprises:

oxide fine particles which contain silicon, wherein the oxide fine particles have a primary particle diameter of 30 nm to 300 nm in number average, a standard deviation σ of a particle size distribution of the primary particle diameter satisfies a relation of: $R/4 \leq \sigma \leq R$, in which the R expresses the primary particle diameter, the oxide fine particles are substantially spherical having a circularity SF1 of 100 to 130 and a circularity SF2 of 100 to 125, the circularity SF1 is defined as an equation (1) and the circularity SF2 is defined as an equation (2);

$$SF1=(L^2/A) \times (\pi/4) \times 100 \quad \text{equation (1)}$$

$$SF2=(P^2/A) \times (1/4 \pi) \times 100 \quad \text{equation (2)}$$

wherein "L" expresses the absolute maximum length of the oxide fine particles; "A" expresses a projected area of the oxide fine particles; and "P" expresses a maximum perimeter of the oxide fine particles.

Claim 13 (Original): The toner for electrophotography according to claim 12, wherein a content of the external additive is 0.01 part by weight to 20 parts by weight, relative to 100 parts by weight of the toner.

Claim 14 (Original): The toner for electrophotography according to claim 13, wherein a content of the external additive is 0.1 part by weight to 5 parts by weight, relative to 100 parts by weight of the toner.

Claim 15 (Currently Amended): The toner for electrophotography according to claim 12, further comprising ~~other~~ one or more kinds of external additives having a small ~~an~~ average particle diameter of primary particles ~~smaller than that of the oxide fine particles~~.

Claim 16 (Original): The toner for electrophotography according to claim 12, wherein the binder resin comprises a polyol resin.

Claim 17 (Original): The toner for electrophotography according to claim 12, wherein the binder resin comprises a polyester resin.

Claim 18 (Original): A double-component developer comprising:

a toner for electrophotography; and
a carrier,

wherein the toner comprises:

base toner particles which contain a binder resin and a coloring agent; and
an external additive,

wherein the base toner particles have a volume average particle diameter of 2 μm to 7 μm ,
the external additive is mixed with the base toner particles, and the external additive
comprises:

oxide fine particles which contain silicon, wherein the oxide fine particles have a
primary particle diameter of 30 nm to 300 nm in number average, a standard deviation σ of a
particle size distribution of the primary particle diameter satisfies a relation of: $R/4 \leq \sigma \leq R$,
in which the R expresses the primary particle diameter, the oxide fine particles are
substantially spherical having a circularity SF1 of 100 to 130 and a circularity SF2 of 100 to
125, the circularity SF1 is defined as an equation (1) and the circularity SF2 is defined as an
equation (2);

$$\text{SF1} = (L^2/A) \times (\pi/4) \times 100 \text{ equation (1)}$$

$$\text{SF2} = (P^2/A) \times (1/4 \pi) \times 100 \text{ equation (2)}$$

wherein "L" expresses the absolute maximum length of the oxide fine particles; "A"
expresses a projected area of the oxide fine particles; and "P" expresses a maximum
perimeter of the oxide fine particles.

Claim 19 (Withdrawn): An image-forming process comprising the steps of:
charging a latent electrostatic image bearing member;
irradiating light to the latent electrostatic image bearing member so as to form a latent
electrostatic image;

supplying a developer onto the latent electrostatic image so as to visualize the latent electrostatic image and to form a toner image;

transferring the toner image onto a recording medium,

wherein the developer comprises a toner for electrophotography, and the toner comprises:

base toner particles which contain a binder resin and a coloring agent; and

an external additive,

wherein the base toner particles have a volume average particle diameter of 2 μm to 7 μm , the external additive is mixed with the base toner particles, and the external additive comprises:

oxide fine particles which contain silicon, wherein the oxide fine particles have a primary particle diameter of 30 nm to 300 nm in number average, a standard deviation σ of a particle size distribution of the primary particle diameter satisfies a relation of: $R/4 \leq \sigma \leq R$, in which the R expresses the primary particle diameter, the oxide fine particles are substantially spherical having a circularity SF1 of 100 to 130 and a circularity SF2 of 100 to 125, the circularity SF1 is defined as an equation (1) and the circularity SF2 is defined as an equation (2);

$$\text{SF1} = (L^2/A) \times (\pi/4) \times 100 \quad \text{equation (1)}$$

$$\text{SF2} = (P^2/A) \times (1/4 \pi) \times 100 \quad \text{equation (2)}$$

wherein "L" expresses the absolute maximum length of the oxide fine particles; "A" expresses a projected area of the oxide fine particles; and "P" expresses a maximum perimeter of the oxide fine particles.

Claim 20 (Withdrawn): The image-forming process according to claim 19, wherein the developer further comprises a carrier.

Application No. 10/618,640
Reply to Office Action of September 7, 2006

Claim 21 (Canceled):

BASIS FOR THE AMENDMENT

The specification and Claim 6 have been amended for clarity.

Claims 8 and 15 have been amended a supported by the English translation of the priority document.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 1-20 will now be active in this application. Claims 19 and 20 are withdrawn from consideration as being drawn to non-elected subject matter.